AK70 MKII

Astell&Kern

INSTRUCTION BOOK

User Guide

IRIVER

CONTENTS

Getting Started _01

Package Contents 02
AK70 MKII at a Glance 03
Power Management 04
Charging 05
Connections 06
Firmware Upgrade 11

Using the Device _02

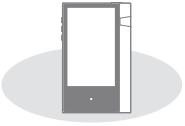
Basic Operations 12
Home Screen 14
Notification Bar 15
Store 18
AK Connect 19
Listening to Music 25
Playlist Management 31
USB DAC Installation 34
How to Use USB Audio 35
CD Ripping 36
Using Bluetooth 38
Settings 40
Connecting to a Wireless Network 45
Equalizer Setup 46

Miscellaneous _03

Safety Precautions 49
Troubleshooting 50
Copyright 52
Certifications 52
Specifications 54
Registered Trademarks 55
Disclaimers 55

Package Contents

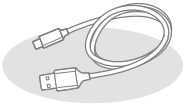
Contents may be changed without prior notice to improve the performance or quality of the product.



AK70 MKII

Protective Film

Quick Start Guide & Warranty Card



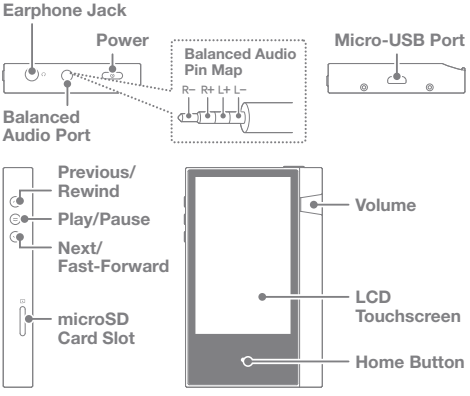
Micro-USB Cable

microSD Card Slot Cover

Protective Film: Protect the device and its screen.
Micro-USB Cable: Connect the device to a computer or charge the device.
Quick Start Guide: Basic overview of device functionality.
Warranty Card: The warranty card is required for customer and technical support. Do not misplace the card.
User Guide: The User Guide can be downloaded from the Astell&Kern website.
[http://www.astellnkern.com/ > Support > Download].
MicroSD Card Slot Cover: The cover is used to protect the microSD card slot when not in use. It is installed on the product by default.

AK70 MKII at a Glance

The appearance of the product as well as the printed and engraved information may vary depending on the model.



Earphones: - Earphone symbol.
Output sound to connected earphones.
Power: - Power symbol.
Turn the screen on and off.
Long press - Turn the device on and off.
Balanced Out: BAL. - Balanced Out symbol.
Output sound to earphones or headphones that support balanced audio connections. Connect to an external audio device by using both the earphone port (ground) and balanced audio port (LR) in conjunction.
Micro-USB Port: 5V⎓1A - DC power symbol.
Connect to a computer or recharge the device. You can enjoy USB audio by connecting with a portable USB DAC (refer to p. 35).

Previous/Rewind: Play the previous song or restart the song.
Long press - Rewind.
Play/Pause: Play or Pause a song.
Long press - Show the playback screen.
Next/Fast-Forward: Skip to the next song.
Long press: Fast-forward.
LCD Touchscreen: Display with touch control.
Volume: Control the volume by turning the wheel.
microSD Card Slot: - microSD card slot symbol.
Insert a microSD card and access its files.
Home Button: Show the home screen.

Power Management

Turn On/Off

1. Long-press the [ ] button to turn on the device.
2. While the device is on, long-press the [ ] button to display a shutdown confirmation message.
3. Press [Confirm] to turn off the device.

This device has an automatic shutdown feature to reduce battery consumption. The device will turn off after a defined period if there is no user input. [- Power Saving - Automatic Shutdown] (See p. 43)

Turn the Screen On/Off

1. While the screen is on, press the [ ] button to turn off the screen.
2. Press the [ ] button again to turn off the screen.

This device has an automatic timeout feature to reduce battery consumption. The screen will turn off after a defined period of time if there is no user input. [- Power Saving - Screen Timeout] (See p. 43)

Reset Function

1. In cases of unexpected device failure or freeze, press the [⊙] button for 12 seconds to force a shutdown. The device can be restarted after a shutdown.
   The device can be restarted after a shutdown.

Resetting the device will not affect the stored data or time setting. Do not use the reset function while the product is in use. Doing so may corrupt the data on the device.

Charging

Charging using PC

1. Connect the device to the PC using the supplied Micro USB cable. Charging starts.

Charging time: up to 8 hours (fully discharge, power OFF)
You may have to turn on a computer to start charging depending on computer specifications.
When charging via PC connection, the charging time may vary depending on whether the device is turned on or off.
If a computer goes into standby/sleep mode, the device may not be charged depending on computer specifications.
The built-in battery will gradually lose capacity over time according to the number of charges/discharges.
Do not use any micro-USB cable other than the one supplied with the device. Doing so may cause a malfunction.

Charging using the adapter

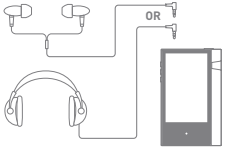
1. Charging is possible by using the 5V 2A output adapter (sold separately).

Charging time: up to 4.5 hours (fully discharge, power OFF)
When using a high-speed charger that is supported with various voltages such as 5V/9V/12V, the charging may not proceed normally and it may cause the product to malfunction.

Connections

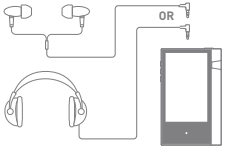
Earphones/Headphones

1. Connect earphones or headphones to the earphones port.



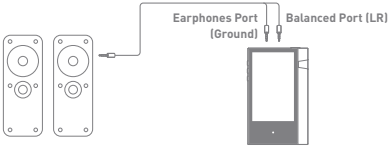
Balanced Earphones/Headphones

1. Connect supported earphones or headphones to the balanced port.



Balanced Audio Device

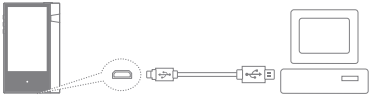
1. Connect to an external audio device by using the Earphones port and Balanced port in conjunction.



Astell & Kern balanced cable (PEF12, PEF21) is not supported.

Connecting to a Computer

1. Turn on the device and your PC.
2. Connect the device to your PC as a standard USB device by using a micro-USB cable. [⚙ - Connect USB]
   - Media Device (USB Drive): Transfer files from a PC to the device.
   - DAC input: Listen to music located on a PC through the device. (See p. 34)



Mac users need to download and install the MTP program from the Astell&Kern website. [http://www.astellnkern.com Support > Download]
For an optimal connection, quit any unnecessary programs before connecting the device to the computer.
Only use the micro-USB cable supplied with the device. Doing so may cause a malfunction.

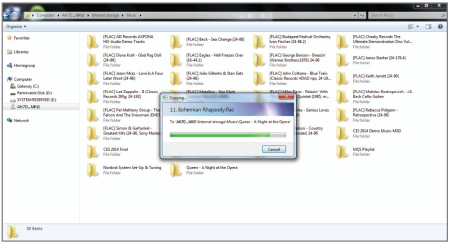
Disconnecting from the Computer

1. Verify that all operations are completed before attempting to disconnect the device from the computer.

Disconnecting the device from the computer during an operation (e.g. file transfer) may corrupt data on the device.

Copy Files/Folders to the Device

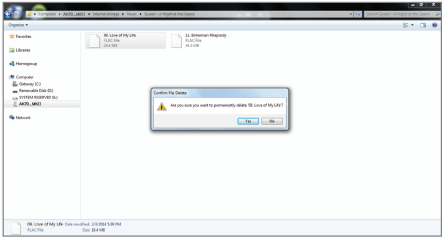
1. To copy files/folders from your computer, select the desired files/folders and drag & drop them into the USB device.



Make sure that the micro-USB cable is securely connected. Note that removing the micro-USB cable or turning off the device or computer during a file transfer may corrupt data on the device. File transfer speeds may be affected depending on the computer and/or OS environment.

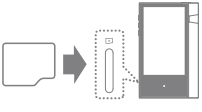
Delete Files/Folders on the Device

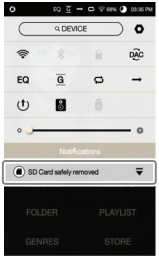
1. Right-click the desired file/folder, and then select [Delete].
2. Select [Yes] in the [Confirm File/Folder Deletion] window to delete the selected file/folder.



Insert/Remove a microSD Card

1. Refer to the diagram and gently insert a microSD card into the microSD card slot.
2. To safely remove a microSD card, select [Safely remove SD card] from the Notification Bar or select [Unmount SD card] from [⚙ - System Information].
3. Gently press the microSD card to release it from the slot.





Recommended microSD Cards

Brand : SanDisk, Transcend

Maximum supported microSD card capacity: 256GB

Notes on inserting 256GB microSD card.

- **Do not force the microSD card into the slot. Doing so may cause damage to the device and/or microSD card.**
- **Do not repeatedly insert/remove the microSD card.**
- **If the microSD card is improperly inserted, it may become immovable or cause damage to the device.**

Notes on removing a microSD card

- **Be sure to safely unmount and remove the microSD card from the device. Not following the proper procedure may corrupt data and cause serious damage to the system.**
- **Do not remove the microSD card while it is in use. Doing so may cause data corruption/deletion, malfunction, and damage to the microSD card.**

Miscellaneous

- **If the device is unable to recognize the microSD card and/or malfunctions, format the memory card before use. We recommend using the FAT32 format.**
- **Using microSD cards other than the recommended brands may cause device malfunction.**
- **A microSD card is not included with this device. Please purchase separately.**

Firmware Upgrade

Wi-Fi Update / OTA (Over-the-Air)

1. Connect to a wireless network.
2. When a new firmware version is available, the screen will display a Firmware Update Guide window.
3. Select [Update] and choose the items for update.
4. Follow the on-screen instructions and proceed with the firmware upgrade.

Refer to page 45 of the manual for more information on connecting to a wireless network.
The firmware upgrade may not initialize if the battery level is too low. (A minimum battery level of 50% is required.)
Moving to another screen during a file download will cancel the download.
Do not disconnect from the wireless network while downloading a firmware upgrade. Doing so may cause data corruption and/or damage to the system.
If an error occurs or the notice in the Notification Bar disappears during an upgrade, download the firmware update again through [- Update - System Update].

Basic Operations

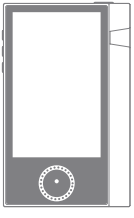
LCD Touchscreen

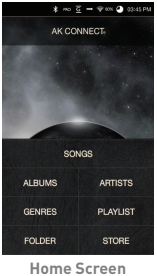
1. This device features an LCD touchscreen that allows you to perform operations by touch.
   Interact with the device by touching the screen to access various features.

To prevent damage, do not use a sharp object or use excessive force when touching the screen.

Return to the Home Screen

1. Press the [Home] button at any time to return to the Home Screen.

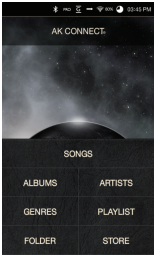




Home Screen

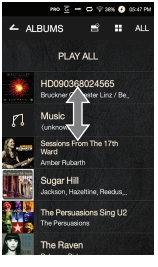
Moving a list in the home screen

1. You can move the list by dragging the home screen [up] / [down].

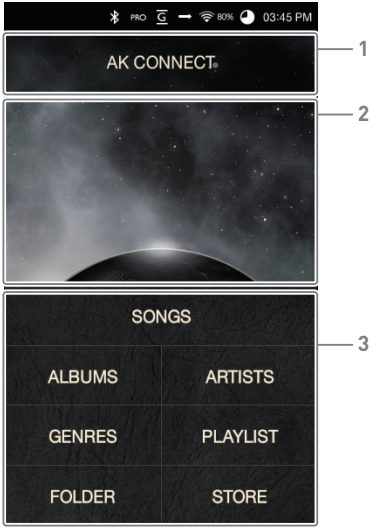


Navigating Up/Down in a List

1. Scroll through the list by dragging the list screen [up] and [down].



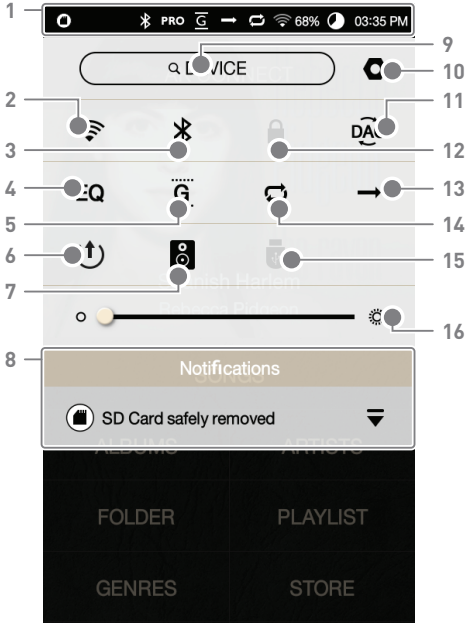
Home Screen



1	**AK CONNECT**	Launches AK Connect.
2	**Current Song**	Currently playing song information.
3	**Search Options**	View the list of songs by different search options.

The search options can be long-pressed and dragged to change their locations.

Notification Bar



1	**Notification Bar**	Expand or collapse the notification bar by dragging the bar down or up, respectively.
2	**Wi-Fi**	Press [ ] to turn Wi-Fi on or off.
3	**Bluetooth**	Press [ ] to turn Bluetooth on or off.
4 EQ	**EQ**	Press [EQ] to turn the EQ on or off. The most recent EQ settings are applied by default.
5 G	**Gapless Playback**	Press [G] to turn Gapless Playback on or off.
6	**Line Out**	Turn Line Out on or off.
7	**Wi-Fi Speakers**	Turn Wi-Fi speakers on or off. (Must be on the same network.) (The icon will become enabled when AK Connect is turned on.)
8	**Notifications Display**	Notification contents are displayed in this area.
9 Q DEVICE	**File Search**	Enter keywords to display a list of items containing the search terms.
10	**Settings**	Displays a list of settings.

11	**PC Connection Mode**	Select the appropriate mode when connected to a computer. DISK :USB drive mode for transferring media files. DAC :Listen to music located on a PC through the device.
12	**Screen Lock**	Press [ ] to turn the screen lock on or off. The volume wheel is disabled when the screen lock icon is activated.
13	**Play Mode**	Press [ ] to cycle through different play modes. :Sequential playback. :Shuffle playback.
14	**Repeat Mode**	Press [ ] to cycle through different Repeat modes. :Repeat the entire playlist. :Repeat the current song. :Disable repeat.
15	**USB Audio**	Please turn on or off USB audio output after connecting the device with the portable USB DAC (refer to p. 35).
	Ripper Power	Turn the CD Ripper on or off. (Enabled when connected to the AK CD Ripper.)
16	**Screen Brightness**	Use the adjustment bar to control the display brightness.

Long-press [/ EQ / / /] to move to the corresponding screen.

Purchasing Music from a Store

Conveniently purchase music from the Store when connected to a wireless network.

Purchasing Music

1. Connect to a wireless network.
2. Select [Store] from the home screen.
3. Select the desired store.
4. Check the user guide or help menu within each store for detailed information.

Refer to page 45 of the manual for more information on connecting to a wireless network.

AK CONNECT

The AK70 MKII can access and play back music files stored on a computer on the same network as well as output sound through Astell&Kern speakers.

MQS Streaming Server Installation

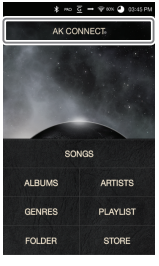
1. Visit the Astell&Kern website and download the server installer that corresponds to your operating system. [http://www.astellnkern.com > Support > Download].
2. Run the downloaded installer and follow the on-screen instructions.
3. Check the User Guide within the program for detailed information on using the MQS Streaming Server.

System Requirements
PC Minimum System Requirements
- **OS : Windows 7/8/10 (32 & 64-bit)**

Mac Minimum System Requirements
- **OS X 10.7 (Lion) or later**

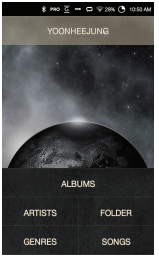
Connecting to the AK Connect Server

1. Turn on the server and connect to the same network as the AK70 MKII.
   - Run the MQS Streaming Server on your computer.
2. Turn on [AK Connect] from the device settings.
3. Press [AK Connect] from the home screen.

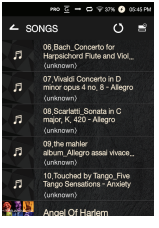


4. A list of servers on the same network as the AK70 MKII will be displayed.

5. Scroll the screen left and right to select a server. The selected server will be connected and the server home screen will be displayed.



6. Select a search option at the bottom of the server home screen to display a list of music.

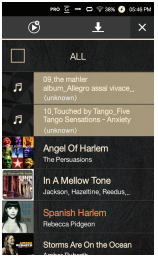

SONGS
06.Bach_Concerto for Harpsichord Flute and Viol_. (unknown)
07.Vivaldi Concerto in D minor opus 4 no. 8 - Allegro (unknown)
08.Scarlatti_Sonata in C major, K. 420 - Allegro (unknown)
09.the mahler album_Allegro assai vivace_. (unknown)
10.Touched by Tango_Five Tango Sensations - Anxiety (unknown)
Angel Of Harlem

Refer to page 45 of the manual for more information on connecting to a wireless network.

Streaming and Downloading from the Music Server

1. Select a search option from the server Home Screen to display a list of music.
2. Select a song to begin streaming.

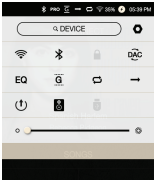
3. Press the [ ] button at the upper-right corner of the music list.
4. Select the desired music, and then press the [ ] button at the top of the screen to begin downloading.
   - A message on the Notification Bar will indicate a completed download.



Depending on network conditions, song loading may be slow or streaming may stutter.
Server response may be slow when the server computer is under load.
If you do streaming and download at the same time, it may slow down the device's response time depending on the speed of Wi-Fi network or server.
Terminating music streaming or pressing the item being downloaded within the Notification Bar will stop the downloading.

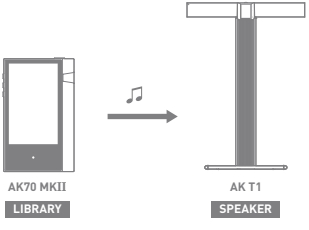
Selecting Speakers

1. Turn on the speaker(s) to be connected, and then connect it to the same network as the AK70 MKII.
2. Turn on [AK Connect] from the device settings.
3. Press [ ] from the notification bar to display a list of speakers available on the same network as the AK70 MKII.
4. Scroll the screen left and right to select a speaker. The selected speaker will be connected, and music will be played back through the speaker.

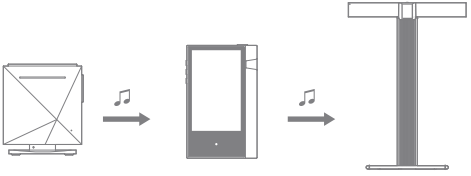


AK Connect Usage Examples

Example 1



Example 2



AK500N
LIBRARY

AK70 MKII
REMOTE

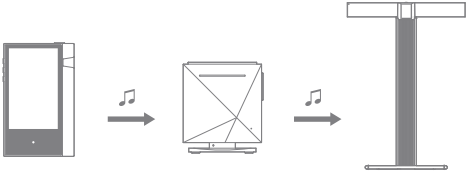
AK T1
SPEAKER

Example 3

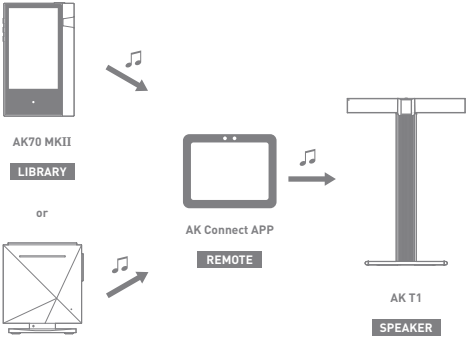
AK70 MKII
REMOTE & LIBRARY

AK500N
SPEAKER

Example 4



Example 5



Listening to Music

Selecting Music

1. Select a search option at the bottom of the home screen to display the playlist.
2. Select a song from the list to begin playback.

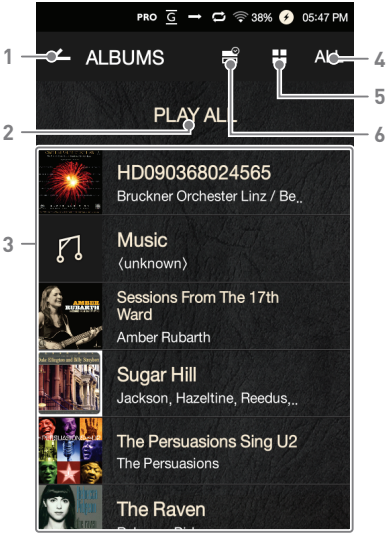
Select [Folder] to search music by folder.
Continuous Playback: Approximately 10 hours (Basis: FLAC, 16-bit, 44 kHz, unbalanced output, volume 80, EQ off, LCD off)
Supported Formats: PCM [8–192kHz(8/16/24bit)], DSD 64/128

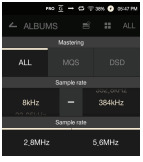
Listening to Music

- Press [ ] at the top of the music list to display music options.
  : Add the selected file after the current/last song of the current playlist.
  : Add the selected file to the playlist.
  : Copy the selected file.
  : Move the selected file.
  : Delete the selected file.
- Select an album cover from the home screen to begin playback.
- Turn the [Volume Wheel] to adjust the volume.
- Press [ ] during playback to pause and [ ] to resume playback.
  - You can also pause/resume playback by pressing the [ ] button on the device.
- Press [/] during playback for the previous/next song.
  - Play the previous/next song by pressing the [/] button on the device.
- Long-press [/] during playback to rewind/fast-forward.
  - Rewind/fast-forward by pressing the [/] button on the device.

- Drag the progress bar to the desired location during playback.
- Press the [Home] button on the device to go to the Home Screen.
- Press the album cover during playback to display an additional screen.
  - : Display the previous screen.
  - : Display the current playlist.
    - Press [ ] next to the playlist to edit the playlist order.
    - Press [ ] at the top of the music list to display music options.
      - : Add the selected file to the playlist.
      - : Delete the selected file from the playlist.
  - : Add the current song to the playlist.
  - : Display lyrics for the current song.
  - : Display current song information.

Playlist Screen



1	**Current Location**	Indicates the current location. Press to return to the previous screen.
2	**Play All**	Play all songs from the current playlist.
3	**Playlist**	Displays the playlist for the current location.
4	**List Sorting**	Select a method for sorting the playlist. 
5	**List View**	Select a view type for the list of albums.
6	**Music Options**	Select the checkbox to apply playlist options.

Music Player Screen

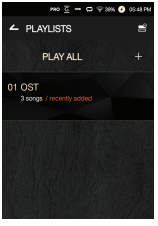
1		**Previous Screen**	Return to the previous screen.
2		**Album Cover**	Display album covers. Press the album cover to show additional functions.

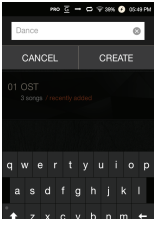
3	**Lyrics**	Lyrics for the current song.
4	**Add to Playlist**	Add the current song to a playlist.
5	**Song Progress**	Indicates song duration.
6	**Details**	Displays bitrate and sampling frequency data.
7	**Title**	Song title information. File name is displayed when ID3Tag is unavailable.
8	**Artist**	Artist name.
9	**Play/Pause**	Play or pause the current song.
10	**Playlist**	Displays the current playlist.
11	**Details**	Displays current song information.
12	**Song Duration**	Indicates the song's total duration. Press to switch from elapsed time to remaining time.
13	**Progress Bar**	Indicates song progress. Drag the indicator to move to the desired time.
14	**Previous/ Rewind**	Short press: Previous song. Long press: Rewind the current song.
15	**Next/ Fast-Forward**	Short press: Next song. Long press: Fast-forward the current song.

Playlist Management

Creating a Playlist

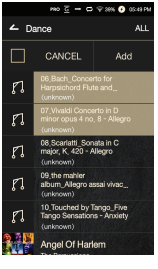
1. Press [Playlist - Playlists] from the home screen to display a list of playlists.
2. Press [+] at the upper-right corner of the screen.
3. Enter a name for the playlist, and then press [Add] to create a new playlist.





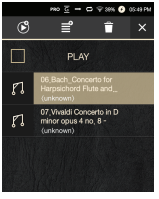
Adding a Song to a Playlist

1. Press [Playlists] to display a list of playlists.
2. Select a playlist and press [+ Add] to display a list of songs.
3. Select the desired song, and then press [+ Add] to add the song to the selected playlist.



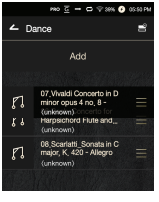
Removing a Song from a Playlist

1. Press [Playlists] to display a list of playlists.
2. Select the desired playlist, and then press [ ] at the top of the screen.
3. Select the desired song, and then press [ ] to remove the song from the selected playlist.



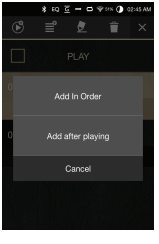
Editing the Playlist Order

1. Press [ ] next to the playlist to modify the playlist order.


Dance
Add
07_Vivaldi Concerto in D minor opus 4 no_ 8 - (unknown)
Harpsichord Flute and_ (unknown)
08_Scarlatti_Sonata in C major, K_420 - Allegro (unknown)

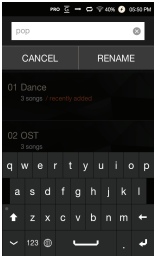
Playing a Playlist

1. Press [Playlists] to display a list of playlists, and then press [ ] at the top of the screen.
2. Select the desired playlist for playback.
3. Press [ ] at the top of the screen to add the selected playlist after the current/last song of the current playlist.



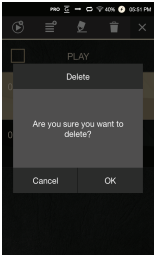
Renaming a Playlist

1. Press [Playlists] to display a list of playlists, and then press [ ] at the top of the screen.
2. Select a playlist to be renamed.
3. Press [ ] at the top of the screen to display a rename window.
4. Enter a name for the playlist, and then press [Rename] to save the playlist under a new name.



Deleting a Playlist

1. Press [Playlists] to display a list of playlists, and then press [ ] at the top of the screen.
2. Select the playlist to be deleted.
3. Press [ ] at the top of the screen to delete the selected playlist.



USB DAC Installation

The USB DAC functionality allows the AK70 MKII to be recognized as a sound card on a computer. Music from the computer is played through the device's earphones port for an enhanced listening experience.

USB DAC Specifications

- Supported OS
  - Windows 7 (32/64-bit) / Windows 8 (32/64-bit) / Windows 10(32bit/64bit)
    OS X 10.7 (Lion) or later
- USB DAC Support Specifications
  - Supported Formats: WAV, FLAC, WMA, MP3, OGG, APE (Normal, High, Fast), AAC, ALAC, AIFF, DFF, DSF
  - Sample Rate: 44.1 kHz – 96 kHz
  - Bit Rate: 16-bit/24-bit
- Control the volume with the AK70 MKII's volume wheel.

Sound will not play back for files that exceed the supported formats.
Volume control is unavailable when the LCD screen is turned off during USB DAC connection.
The Previous, Play, and Next buttons are unavailable during USB DAC connection.
Playback may stutter when computer performance is slow or the USB connection is experiencing heavy usage.
There may be issues with audio-to-video synchronization during video playback depending on the sound quality and operating environment.
Volume cannot be adjusted via the Windows volume control. The volume wheel on the device or volume control on the appropriate program must be used to adjust the volume.

How to Use USB Audio

You can enjoy USB audio by linking with a portable amp and DAC available in the market.

How to Link Portable USB DAC

1. Connect the device's micro USB jack with the portable USB DAC with dedicated cable.
2. Press [ ] after scrolling down the notification bar.
3. Once [ ] is activated, you can enjoy the music through the portable USB DAC's audio output jack.

The micro USB cable that comes packaged with the device is available for power recharging only by connecting with the PC. For instructions on the dedicated cable, please refer to the manual of the portable USB DAC manufacturer.

How to Change USB Audio DSD Output Type

You can change the output type of DSD data coming out of USB audio.

1. Select a DSD output type on [- USB audio].
   - PCM: The device's DSD is converted into PCM and comes out through USB audio.
   - DoP: The device's DSD is converted into DoP and comes out through USB audio.

The portable USB DAC must be able to receive digital input through the micro USB's OTG.
Output may not be made properly depending on the digital input specs of the micro USB of the portable USB DAC. This is not a defect in the device and not a ground for exchange or refund.
In the case of using DoP as a DSD output type, no sound may come out except noise depending on the specs of the portable USB DAC.

CD Ripping

Connect the AK Ripper (sold separately) to rip CDs.

Turning the AK Ripper On/Off

1. You can use the AK ripper once you connect the device with the AK ripper and press [ ] after scrolling down the notification bar.
2. While the AK Ripper is turned on, pull down the notification bar and press the CD ripping icon to stop the AK Ripper operation.

Automatic CD Ripping

1. Connect the AK Ripper and insert a CD.
2. The metadata (ID3 tags) for the inserted CD will be retrieved via Gracenote.
3. CD ripping will begin automatically after the metadata has been retrieved.
4. When finished, press [OK] on the results prompt to complete automatic CD ripping.

Manual CD Ripping

1. When the AK Ripper is connected and a CD is inserted, the [CD Ripping] menu will be activated on the home screen.
2. Press the [CD Ripping] menu and select the desired file format (FLAC or WAV).
3. The Gracenote database will be searched for matching CD metadata after the file format is selected.
4. When the database search is complete, press [Start] to begin CD ripping.
5. Rip only selected songs.

CD Ripping Results

- ● : Indicates that CD ripping is complete, or that although an error occurred, CD ripping was successfully completed via error correction.
- × : Indicates that the song currently being ripped can be canceled via user input.
- ⚠ : Indicates that CD ripping failed due to a scratch on the CD or other similar reasons. Also indicates that CD ripping was canceled due to user interruption.

To search the Gracenote database, the AK70 MKII must be connected to the Internet via Wi-Fi. The database access time may vary depending on the network environment.
Please note that metadata for certain CDs may not be available on the Gracenote database.
You may not access the Home screen while CD ripping is in progress.
The AK Connect service will be disabled during CD ripping. The service will automatically restart when CD ripping is completed.
Music playback will be disabled during CD ripping, and tracks that have been ripped will not be available for playback until the entire CD has been ripped.
You can set the desired file format and ripping speed from the [⚙ - CD Ripping] menu.
Several attempts at correction will be made for data with errors when the feature is enabled under [⚙ - CD Ripping - Error Correction]. Please note that the CD ripping speed will be affected when this feature is enabled.

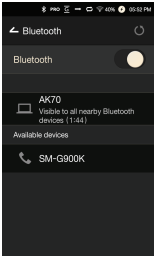
Using Bluetooth

Connect a Bluetooth device to listen to music wirelessly.

Turning Bluetooth On/Off

A Bluetooth device must be paired with the AK70 MKII prior to use. Refer to the Bluetooth device's instruction manual for details.

1. Select [ ] from the Notification Bar, or select [On/Off] from [- Bluetooth].

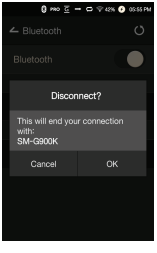


Bluetooth Pairing

1. Select the appropriate Bluetooth device from the list of available devices.

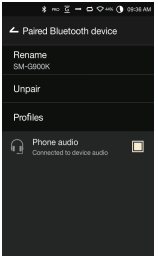
Terminating a Bluetooth Connection

1. Press the connected Bluetooth device and confirm the message prompt to disconnect the device.



Removing a Bluetooth Pairing

1. Press [⚌] to the right of the paired device to be redirected to the settings screen.
2. Select [Remove Pairing] to complete the process.



Bluetooth Support Specifications
- **Profile: A2DP, AVRCP, aptX, aptxHD**
- **Device performance may be affected during Hi-Fi playback. (48 kHz or lower is recommended.)**

Do not turn off the device while connected to Bluetooth.
Power cycle the Bluetooth device in case of malfunction.
Pairing methods may differ for each individual Bluetooth device. Always refer to the respective instruction manual for details.
When connecting the product to a Bluetooth device, the distance between the two must be within 20 cm.
Audio quality will degrade with longer distances, and the pairing may disconnect at a distance of 2 m (6.5 ft) or more. (Distances may vary depending on device and environment.)
Crosstalk may be heard while using Bluetooth.
For multipoint devices, make the necessary connections prior to use.
Car audio Bluetooth connections are not supported.
Malfunction, noise, and other undesirable effects may occur due to the device's battery level and the environment.
- **If signal interference affects data transmission. (e.g. holding the device while wearing a Bluetooth device, holding the device while holding another electronic device, etc.)**
- **If the device or Bluetooth headset's radio transmitters are touching parts of the body.**
- **If the transmission strength is affected by walls, corners, partitions, etc.**
- **If devices using the same frequencies cause interference. (e.g. medical devices, microwave ovens, Wi-Fi, etc.)**
- **Areas with an excessive amount of interference or weak signals. (e.g. elevators, underground, etc.)**

Settings

Set up the device according to the user's needs. The settings menu may vary depending on the firmware version.

Setup

1. Select [ ] from the home screen notification bar.
2. Select the desired item for setup.

Wi-Fi

- Change wireless network settings and turn Wi-Fi on or off.

Refer to page 45 of the manual for more information on setting a wireless network.

Bluetooth

- Connect a Bluetooth device to listen to music wirelessly.

Refer to [Using Bluetooth] on page 38 of the manual for more information on setting up a Bluetooth connection.

AK CONNECT

- Set whether to use AK Connect.

Equalizer

- Set the equalizer according to the user's preferences.
  - Pro EQ: EQ Preset recommended by professionals.
  - User EQ: Adjust the frequencies according to the user's preferences.

Supported Formats for EQ: PCM [8 – 192 kHz (8/16/24-bit)]
Using the equalizer may negatively affect device performance.
Refer to pages 46 - 48 of the manual for more information on using the equalizer.

Gapless Playback

- Play the next song without any interruptions/silence.
  - Gapless playback is only supported between two files with identical bit rates, sample rates, and channels.

Line Out

- Turn Line Out on or off.
  - Enabling Line Out and pressing [Line Out] on the volume control window will lock the volume level at maximum.

Do not use earphones with the Line Out feature enabled. Doing so may cause permanent hearing loss.

Left-Right Balance

- Adjust the left-right balance for earphones/headphones.

CD Ripping

- Set the automatic CD ripping function as well as the file format and ripping speed.

USB Audio

- It sets up the output type of DSD coming out through the portable USB DAC.

Screen Brightness

- Adjust screen brightness settings.

Theme

- **Change the theme.**

Date & Time

- Set the current date and time.

Device Name

- Set the name of the device.
  - The maximum name length is 30 characters.

Language

- Select the display language.
  - Supported languages: English, Korean, Japanese, Chinese (Simplified/Traditional), French, Russian, German

Keyboard

- Select the keyboard language.
  - Supported languages: English, Korean, Japanese, Chinese (Simplified/Traditional), Russian

Power

- Automatic Shutdown: The device will turn off after a defined period if there is no user input.
- Screen Timeout: The screen will turn off after a defined period when there is no user input.
- Sleep Timer: Music playback will stop, and the device will turn off after a defined period.

USB Connection

- Media Device (USB Drive): Connect to a computer to transfer media files.
- DAC Input: Listen to music located on a PC through the device.

Download

- Select a folder for downloaded files.

The default folder is set when using AK Connect to download files. When [Select Folder] is selected, the user is prompted to choose a download folder each time a file is downloaded.

Update

- System Update: Update the system when a new version is found.
- Application Update: Update the default applications (including the Store) when new versions are found.

System Information

- System Information: View model number, firmware version, and data storage information. The microSD card can be mounted/dismounted, and data can be deleted.

Formatting the microSD card will delete all data on the memory card. Be sure to backup any important files before formatting. When formatting the microSD card from a computer, be sure to select the FAT32 system.

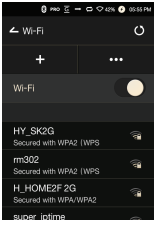
System Restore

- Database Initialization: Reset the internal database. The database initialization time may vary depending on the number of files stored on the device.
- Default Settings: Revert all user settings back to their original settings.
- Factory Reset: Delete all user data and restore the device to its original factory settings.

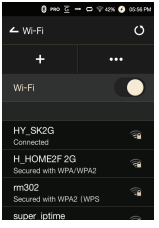
Connecting to a Wireless Network

Connecting to a Network

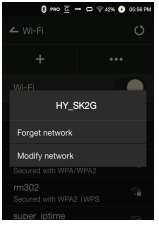
1. Long-press [ ] from the Notification Bar or select [- Wi-Fi] to display a list of access points (AP).



2. Select the desired AP to connect to the wireless network.
   - Additional information (encryption key, index, etc.) may be required depending on the network settings.



3. Long-press the network name and select [Network Settings] to edit specific network settings.

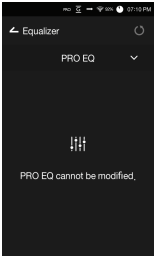


Networks requiring browser or other additional certifications are not supported.
Channels 1 through 13 are supported. (but channels 12 and 13 are not supported for FCC)

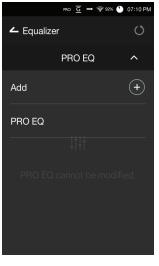
Equalizer Setup

Equalizer Setup

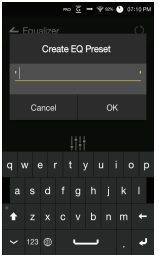
1. Long-press [EQ] on the notification bar, or turn on [⚙ - Equalizer].



2. Press [Pro EQ] and select [Add].



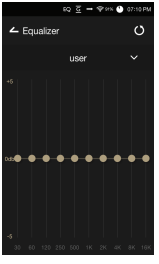
3. Enter a name for the custom EQ settings and select [OK].



4. Adjust the frequencies according to the user's preferences.

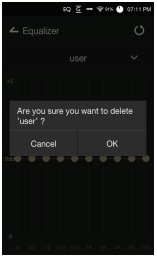
Reset Equalizer

1. Select the desired EQ setting and select [↺] to revert the EQ to its default settings.



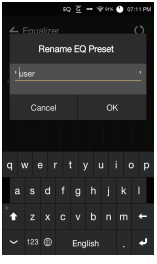
Deleting Equalizer

1. Press [Pro EQ] at the upper corner of the screen.
2. Press [🗑] next to the desired item to delete the selected equalizer.



Renaming an Equalizer

1. Press [Pro EQ] at the upper corner of the screen.
2. Press [✎] next to the desired item and enter a new name for the selected equalizer.
3. Press [OK] to apply the changes.



Safety Precautions

Device

- When a plug is inserted into the earphones, balanced, or USB port, do not apply any force or shock to the plug.
- Do not insert any metal objects (coins, hairpins, etc.) or flammable debris into the device.
- Do not place heavy objects on the device.
- In case the device gets wet (rain, water, chemicals, medicine, cosmetics, sweat, moisture, etc.), do not power on the device and allow it to dry thoroughly. Contact the nearest iriver Customer Support Center.
  (Malfunctions due to exposure to liquids will be repaired for a fee regardless of the warranty period and such damage may not be repairable.)
- Avoid exposing the device to direct sunlight or extreme temperatures (-10℃ - 50℃; 14°F - 122°F) such as the inside of a car during the summer.
- Do not store or use in hot and humid places such as saunas.
- Avoid places with excess moisture, dust, or smoke.
- Do not use for extended period on blankets, electric blankets, or carpet.
- Do not place near a fire or in a microwave.
- Never attempt to disassemble, repair, or alter the product.
- Do not store for extended periods in a confined space with the power on.
- Do not place the device near magnetic objects (magnets, televisions, monitors, speakers, etc.).
- Never use chemicals or cleaning products on the device since they can damage the paint and surface coating.
- Avoid dropping or subjecting the device to a strong impact (excessive vibration, etc.).
- Do not press multiple buttons simultaneously.
- Do not disconnect the micro-USB cable during data transfer.
- When connecting the micro-USB cable, use a USB port on the back of the PC. Connecting to a defective or damaged USB port may damage the device.
- Displaying one image for an extended period may cause screen burn-in (afterimage).

- Using poor quality protective films or adhesive stickers on the screen may cause damage.
- Do not insert any foreign objects into the earphones port.
- If playing for extended periods, the device can be very hot, so please keep in mind when using.

Other

- Do not use earphones/headphones or operate the product while operating any type of vehicle. It is not only dangerous but may be a violation of the law in certain regions.
- Do not use the product during physical activities (driving, walking, hiking, etc.).
- Always use in a safe environment to avoid the risk of accidents.
- Always be aware of your surroundings when using the device while moving.
- Avoid using the device during thunderstorms to reduce the possibility of electric shock.
- If there is a ringing in the ears during or immediately after use, reduce the volume or discontinue using the product and obtain medical advice.
- Do not listen to music at excessive volumes for extended periods.
- Do not use the earphones/headphones at excessive volumes.
- Be careful not to get the earphones/headphones caught in other objects.
- Do not sleep with earphones in your ears or leave them in for extended periods.

Trouble-shooting

Check for solutions to common problems.

1. The device won't turn on.
   - The battery may need to be recharged. Charge the device for at least one hour and try again.
   - Reset the device and try again. (See p. 5)

2. The device will not charge when connected to a computer via USB cable.
   - Use a USB port on the back of the computer, and check that the USB port is functioning properly.
   - Check that the USB cable is connected correctly.
3. The computer won't recognize the device or an error occurs when connected.
   - Use a USB port on the back of the computer.
   - Check that the USB cable is connected correctly.
   - Check if the device connects properly on a different computer.
4. The screen turns off repeatedly.
   - The screen turns off automatically after a defined period to reduce battery consumption. Set the time at [⚙ - Power Saving - Screen Timeout].
5. The screen does not display images properly.
   - Check the screen for debris.
6. There is no sound, or there is static/interference.
   - Check that the volume setting is above [0].
   - Check that the earphones are plugged in properly, and make sure debris isn't obstructing the port connection.
   - Check if the music file is corrupted.
   - Verify that the audio settings have been properly set. (Balanced out, line out, etc.)
7. A file does not play, or the product is unstable when a certain file is used.
   - The following may occur due to the condition of the file:
     - Playback is unstable or difficult.
     - The product may not work normally.
     - The file may sound different from a computer.
     - There may be a difference in the performance of playback or other functions.
     - There may be differences in the playable specs.
   - A file conversion or use of a different file is recommended.

Copyright

iriver Limited retains the rights to patents, trademarks, copyrights, and other intellectual property rights related to this manual.
No contents of this user manual may be duplicated or reproduced in any format or by any means without the prior approval of iriver.
Using or reproducing, in whole or part, the contents of this document is subject to penalties.
Software, audio, video, and any other copyrighted contents are protected in accordance with relevant copyright laws.
The user accepts all legal responsibility for the unauthorized reproduction or distribution of the copyrighted contents from this product.
Companies, organizations, products, people, and events used in the examples are not based on actual data.
iriver has no intention to be associated with any company, institution, product, person, or incident through this instruction manual, and no such inference should be made.
It is the responsibility of the user to comply with applicable copyright laws.
©1999-2017 iriver Limited. All rights reserved.

The AK70 MKII was designed and audio-tuned under the advisement of MSD.

Certifications

KC / FCC / CE / TELEC
Class B Device (Communication equipment for residential use): This is a Class B Device and is registered for EMC requirements for residential use. This device can be used in residential and all other areas.

FCCID: QDMPPM12
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual: NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

Body-Worn operation
This device was tested for typical body-worn operations with the back of the portable music player kept 5mm. from the body. To maintain compliance requirements, use only belt-clips, holsters or similar accessories that maintain a 5mm separation distance between the user's Body and the back of the Portable music player, including the antenna. The use of belt-clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with CE RF exposure requirements, and should be avoided.
Body-worn accessory exposure conditions "Specific information must be included in the operating manuals to enable users to select body-worn accessories that meet the minimum test separation distance requirements. Users must be fully informed of the operating requirements and restrictions, to the extent that the typical user can easily understand the information, to acquire the required body-worn accessories to maintain compliance. Instructions on how to place and orient a device in body-worn accessories, in accordance with the test results, should also be included in the user instructions. All supported bodyworn accessory operating configurations must be clearly disclosed to users through conspicuous instructions in the user guide and user manual to ensure unsupported operations are avoided. All body-worn accessories containing metallic components must be tested for compliance and clearly identified in the operating manual. The instruction must inform users to avoid using other body-worn accessories containing metallic components to ensure RF exposure compliance."

Specifications

General Specifications	
Product Name	AK70 MKII
Model	PPM12
Body Color	Noir Black
Body Material	Aluminum
Display	3.3inch WVGA(480x800)
Supported Audio Formats	WAV, FLAC, WMA, MP3, OGG, APE, AAC, ALAC, AIFF, DFF, DSF
Sampling Rate	PCM : 8kHz ~ 192kHz (8/16/24bits per Sample) / DSD : DSD64(1bit 2.8MHz), Stereo / DSD128(1bit 5.6MHz)
Output Level	Unbalance 2.0Vrms/ Balance 4.0Vrms (Condition No Load)
DAC	Cirrus Logic CS4398 x 2 (Dual DAC)
Decoding	Support up to 24bit / 192kHz Bit to Bit Decoding
Input	USB Micro-B input(for charging & data transfer (PC & MAC))/ Connection Mode: MTP(Media Device)
Outputs	PHONES (3.5mm) / Balanced Out (2.5mm, only 4-pole supported)
Wi-Fi	802.11 b/g/n (2.4GHz)
Bluetooth	V4.0 (A2DP, AVRCP, aptX, aptxHD)
Dimensions	2.47" (62.8mm)[W] x 3.81" (96.8mm)[H] x 0.59" (15.2mm)[D]
Weight	5.29oz(150g)
Feature Enhancements	Firmware Upgrade Supported (OTA)
Operating Temperature	-10℃ ~ + 50℃ (14°F ~ 122°F)
Audio Specifications	
Frequency Response	±0.075±0.11dB (Condition: 20Hz~20kHz) Unbalance / ±0.09dB (Condition: 20Hz~20kHz) Balance
S/N	118dB @ 1kHz, Unbalance/ 119dB @ 1kHz, Balance
Crosstalk	136dB @ 1kHz, Unbalance/ 138dB @ 1kHz, Balance
THD+N	0.0005% @ 1kHz, Unbalance/ 0.0005% @ 1kHz, Balance
SMPTE IMD	0.0007% 800Hz 10kHz(4:1) Unbalance/ 0.0006% 800Hz 10kHz(4:1) Balance
Output Impedance	Balanced out 2.5mm (1ohm) / PHONES 3.5mm (2ohm)
Clock Jitter	45ps
Storage Capacity	
Built-in Memory	64GB[NAND]
External Memory	microSD (Max. 256GB) x 1
Battery	
Capacity	2,500mAh 3.7V Li-Polymer Battery
Supported OS	
Supported OS	Windows 7,8,10(32/64bit) MAC OS X 10.7. and up

Registered Trademarks

Windows 2000, Windows XP, Windows 7, Windows 8, Windows 10 and Windows Media Player are trademarks of Microsoft Corp.

Qualcomm® aptX™ HD

Disclaimers

The manufacturer, importer, and distributor shall not be liable for damages including accidental and personal injury due to the improper use or operation of this product.
The information in this user manual was written based on current product specifications. The manufacturer, iriver Limited, is adding new complementary features and will continue to apply new technologies in the future.
All specifications may be changed without prior notice.
There is no warranty against data loss due to the use of this product.

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.